

What is claimed is:

1. A control system for a throttle valve driving apparatus which comprises a driving unit for driving a throttle valve provided along an induction system of an internal combustion engine installed in a vehicle, a biasing unit for holding the throttle valve at a predetermined hold opening while the throttle valve is not driven by the driving unit, an accelerator operation amount detecting unit for detecting an operation amount of an accelerator pedal of the vehicle and a throttle valve position detecting unit for detecting an opening of the throttle valve, the control system comprising:
  - a target opening setting unit for setting a target opening for the throttle valve opening based on the accelerator pedal operation amount;
  - a driving control unit for controlling the driving unit so that the throttle valve opening becomes the target opening;
  - an abnormality determining unit for determining an abnormality of the throttle valve driving apparatus;
  - a speed detecting unit for detecting a running speed of the vehicle; and
  - a limiting unit for limiting the opening of the throttle valve according to the running speed of the vehicle when the abnormality of the throttle valve driving

apparatus is determined by the abnormality determining unit.

2. A control system for a throttle valve driving apparatus as set forth in Claim 1, wherein the limiting unit limits the throttle valve opening to a predetermined idle opening which is smaller than the predetermined hold opening, or less when a brake pedal of the vehicle is operated.

10 3. A control system for a throttle valve driving apparatus as set forth in Claim 1, wherein the limiting unit sets an upper limit value of the throttle valve opening

15 at a larger value as the running speed of the vehicle increases.

4. A control system for a throttle valve driving apparatus as set forth in Claim 2, wherein the limiting unit sets an upper limit value of the throttle valve opening 20 at a larger value as the running speed of the vehicle increases.

5. A control method for a throttle valve driving apparatus which comprises a driving unit for driving a 25 throttle valve provided along an induction system of an

internal combustion engine installed in a vehicle, a biasing unit for holding the throttle valve at a predetermined hold opening while the throttle valve is not driven by the driving unit, an accelerator operation

amount detecting unit for detecting an operation amount

of an accelerator pedal of the vehicle and a throttle

valve position detecting unit for detecting an opening of the throttle valve, the control method comprising:

setting a target opening for the throttle valve;

10 opening based on the accelerator pedal operation amount;

controlling the driving unit so that the throttle

valve opening becomes the target opening;

determining an abnormality of the throttle valve driving apparatus;

detecting a running speed of the vehicle; and

limiting the opening of the throttle valve according

15 to the running speed of the vehicle when the abnormality of the throttle valve driving apparatus is determined.

20 6. A control method for a throttle valve driving apparatus as set forth in Claim 5, wherein the limiting

step limits the throttle valve opening to a predetermined

idle opening which is smaller than the predetermined hold

opening, or less when a brake pedal of the vehicle is

25 operated.

7. A control method for a throttle valve driving apparatus as set forth in Claim 5, wherein the limiting unit sets an upper limit value of the throttle valve opening 5 at a larger value as the running speed of the vehicle increases.

8. A control method for a throttle valve driving apparatus as set forth in Claim 6, wherein the limiting unit sets an upper limit value of the throttle valve opening 10 at a larger value as the running speed of the vehicle increases.